

2022



Sustainable Event Report

New Zealand National Agricultural Fieldays
30 November - 3 December



Prepared by 
instep™
Sustainability in Action

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New Zealand Agricultural Fieldays 2022
and is issued according to Instep standard terms and conditions.

NEW ZEALAND AGRICULTURAL FIELDAYS 2022
SUSTAINABLE EVENT PROGRAMME
30 November - 3 December 2022



A handwritten signature in blue ink that reads "P. Birkett".

Peter Birkett
Author

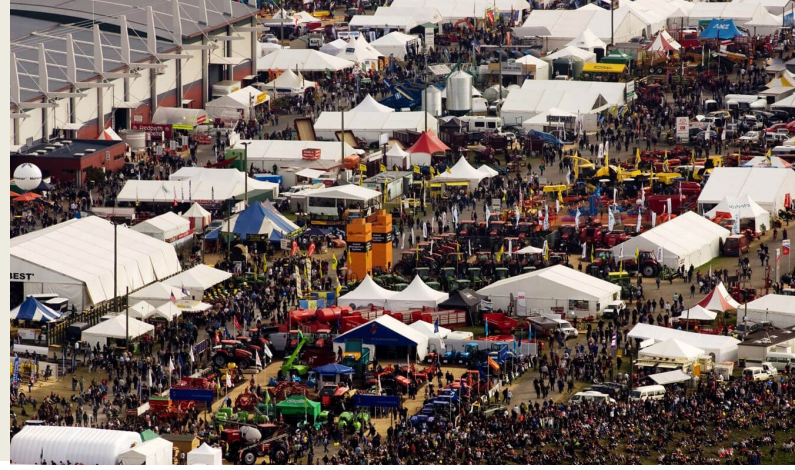
A handwritten signature in blue ink that reads "M. Birkett".

Margaret Birkett
Peer Reviewer

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EXECUTIVE SUMMARY



The New Zealand Agricultural Fieldays

(Fieldays) has now been committed to sustainable event management for ten years, incorporating environmental management and carbon footprint calculations into the event planning and staging.

This year's event was re-scheduled to be held from 30 November to 3 December 2022. This is the first time the iconic event has been delivered in a different season. Visitors and exhibitors were appreciative of not only the better seasonal weather, but also the fact that despite various challenges for the event sector over recent years, the event was delivered in the professional manner expected of the Mystery Creek Event Centre.

During the event, various Environmental Impact Areas (EIAs) were identified in order to set objectives and monitor progress. Data was then gathered on-site by independent staff utilising meter readings, calculations and surveying. This was followed by post-event data collection. All information was then used to calculate a carbon footprint for the event, assess whether objectives had been achieved, and recommend initiatives for environmental improvement in future. Results and objectives are summarised here.

FIELDAYS IS COMMITTED TO SUSTAINABLE EVENT MANAGEMENT ACROSS ALL AREAS OF EVENT PLANNING AND STAGING. FIELDAYS AIMS TO SHOWCASE EXCELLENT ENVIRONMENTAL STEWARDSHIP AS AN EXAMPLE TO NEW ZEALAND'S AGRICULTURAL INDUSTRY

ENERGY

Energy emissions are 65.63 tonne CO_{2e}, 42% lower than 2021 and 16% lower than base year level. Reductions in all areas of this important scope are recorded for 2022.

WASTE

Total waste levels reduced by 36% to deliver an estimated quantity of 61,726 kgs compared with 96,987 kg last year.

Due to challenges in establishing robust data for processing, a two pronged approach was instigated in 2022. This includes an on-site, or 'at gate', volume based set of data, and an 'off-site' set of data based on the processor's invoiced data. Based on cubic metres, 'on-site' delivers a landfill diversion rate of 60%; this compares favourably with the processors' data which indicates a diversion rate of 38%. Whilst the on-site diversion rate will be referenced, it is prudent to use the processor's data to calculate the appropriate CO_{2e} emissions.

TRANSPORT

This scope continues to have the largest impact on Fieldays' footprint, with 2022 transport associated CO_{2e} emissions recording 2518 tCO_{2e}; 47% lower than 2021 transport emissions.

GHG EMISSIONS

The 2022 emissions profile is dominated by transport emissions, totalling more than 97% of all emissions.

Total CO_{2e} emissions saw a 47% reduction compared with 2021 recording a total of 2,593.76 tCO_{2e}.

Standardised emissions reduced by 8% to report 34 kg CO_{2e} emissions per attendee.

Fieldays Objectives for 2022

1.Reduce energy emissions per exhibitor back to Base Year levels through an exhibitor sustainability levy.

- ✓ Achieved
- In Progress
- ⓘ Not achieved

Energy

- ✓ 1. Reduce energy emissions per exhibitor back to Base Year levels through an exhibitor sustainability levy.
- 2. Investigate carbon mitigation or conservation programmes that may align with the exhibitor offset levy.
- 3. Plan logistics around introducing an exhibitor sustainability levy.
- ✓ 4. Communicate positive environmental messages around these programmes to exhibitors.
- ⓘ 5. Trial a small solar powered site..
- ✓ 6. Use online and social media communications to share energy savings.

Waste

- 1. Divert 50% of all waste from landfill.
- ✓ 2. Strongly encourage compostable packaging in order to collect >1,000 kg compostable material.
- ✓ 3. Introduce Sustainable Waste Partner scheme with key exhibitors.
- ✓ 4. Continue sorting of hot zones waste.
- ✓ 5. Continue to promote composting of food and coffee grinds across site.
- ✓ 6. Expand composting to sorting and composting of commercially compostable serveware and coffee cups.
- ⓘ 7. Hold a waste workshop with exhibitors and vendors to gather ideas, opportunities and issues.
- 8. Raise awareness of options of compostable material for food vendors and anyone serving food

Transport

- 1. Enhance car parking options at the Park n Rides to lift bus patronage to 15%.
- ✓ 2. Continue to promote and incentivise bus travel.
- ✓ 3. Communicate the benefits for everyone in terms of reduced traffic congestion when shared transport is used.

GHG Emissions

- ✓ Lower emissions per visitor by 5% compared with 2021 levels.

Suppliers & Materials

- ✓ Promote ticket downloads to further reduce printed tickets.

INTRODUCTION



Sustainability and environmental concerns are becoming increasingly important amongst event attendees and stakeholders. The management team at New Zealand National Fieldays Society has acknowledged these concerns and has committed to playing their part in bringing more sustainable events to New Zealand.

For ten years The New Zealand Agricultural Fieldays event (Fieldays), held over four days at Mystery Creek in Hamilton New Zealand, has incorporated sustainable event management into the event planning and staging.

The Instep Sustainable Event Programme (ISEP) follows international standard ISO 20121 which includes monitoring of sustainability metrics and calculation of greenhouse gas (GHG) emissions, or a carbon footprint as it is commonly referred to. Fieldays is currently an ISEP certified sustainable event.

Benchmarking between past Fieldays' events and other Mystery Creek events is now an established way to gauge each event's progress against New Zealand National Fieldays Society's best practice for sustainability.

BACKGROUND: New Zealand National Agricultural Fieldays

The New Zealand National Agricultural Fieldays event is an annual international agricultural show held in Hamilton, New Zealand normally in June, however, due to travel and covid restrictions the 2022 event was postponed until late November.

Fieldays exhibits cutting-edge agricultural technology, innovations and developments in the agriculture and farming industries. As a non-profit organisation any surplus generated from the event, or from hosting other events on site, is invested in further development of the property, venues and facilities, and charitable purpose along with advancing agriculture.

This model has seen the event grow from strength to strength with continued support from primary industry and government alike.

Fieldays is recognised as a crucial date in the agricultural calendar and generates both local and international business growth opportunities.

BACKGROUND: Sustainable Events

Increasingly, event organisers have recognised that staging an event can impact the environment in various ways, and many have embraced the challenge of running their event in the most sustainable way possible. There are many definitions of the word “sustainable”. In terms of our natural environment, a sustainable event is one that ensures resources are used in such a way that they will remain available for others to use and enjoy. The key goal when undertaking a sustainable event is that environmental impact areas are identified and monitored so that strategies can be put in place to manage these areas in future, and ultimately reduce their impact.

As part of a sustainable event, a carbon footprint is calculated. A carbon footprint is a way of quantifying the amount of GHG emissions an individual, organisation or event is responsible for.

It is widely recognised that global emissions of the six GHGs are responsible for increasing the greenhouse effect in the atmosphere, and causing potentially dangerous levels of climate change.

To calculate a carbon footprint, all possible sources of GHG emissions must first be identified. Then activity data relating to the source is collected and the amount of GHG calculated using published emission factors. Emissions from all sources are then added together to give a total carbon footprint, or carbon emission profile, expressed in carbon dioxide equivalent or CO_{2e}.

Instep provided independent monitoring at Fieldays 2022. Due to the size of the event and a long lead-up period by staff and exhibitors, data is taken from sources monitored for the entire month of November. This covers Mystery Creek staff activities, exhibitor pack-in and pack-out, site planning and post-event waste clearing.

Data collected includes direct readings from meters on fuel tanks, invoices from suppliers, on-site observations and surveying. This data has been used to calculate GHG emissions for the event and recommend reduction measures for future events.

Instep follows the internationally recognised ISO 14064-1¹ to calculate carbon emissions and ISO 14064-3² to undertake quality assurance checks.

Emission factors used in calculations are selected based on the best currently available. Additional information on quality assurance can be found in the accompanying Verification Report.

Sustainable event planning and reporting is assessed against the internationally recognised ISO 20121.³

**THERE ARE 6 GREENHOUSE GASES:
CO₂, CH₄, N₂O, HFCS, PFCS & SF₆.
EMISSIONS ARE STANDARDISED
AND REPORTED AS CO_{2e}, OR CARBON
DIOXIDE EQUIVALENT**

1: ISO 14064-1 Specification with guidance at the organisation level for quantification and reporting of GHG emissions and removals.

2: ISO 14064-3 Specification with guidance for the validation and verification of greenhouse gas assertions.

3 International Standard for Organisation 20121 - Event Sustainability Management Systems

SUSTAINABLE EVENT PROGRAMME



ENVIRONMENTAL IMPACT AREAS

The Environmental Impacts of Fieldays 2022 were separated into the following areas:

- Energy*
- Waste* & Recycling
- Transport*
- Suppliers & Materials
- Water
- Attitudes & Legacy
- GHG Emissions

Those areas marked with * contribute directly to GHG emission calculations

Objectives are set within each Environmental Impact Area (EIA) to direct efforts and rate success.

A breakdown of the EIAs that were monitored within the event boundaries, and the objectives set for Fieldays, are listed in Table 1.

FIELDAYS IS COMMITTED TO SUSTAINABLE EVENT MANAGEMENT ACROSS ALL AREAS OF EVENT PLANNING AND STAGING

FIELDAYS AIMS TO SHOWCASE EXCELLENT ENVIRONMENTAL STEWARDSHIP AS AN EXAMPLE TO NEW ZEALAND'S AGRICULTURAL INDUSTRY; IMPROVING THE MANAGEMENT OF EVENT SUSTAINABILITY BY MONITORING ENVIRONMENTAL IMPACTS THAT CAN BE REDUCED IN FUTURE YEARS

THE NEW ZEALAND NATIONAL FIELDAYS SOCIETY AIMS TO BE A LEADER IN STAGING SUSTAINABLY MANAGED EVENTS

Table 1: Objectives Set for Fieldays 2022

1.Reduce energy emissions per exhibitor back to Base Year levels through an exhibitor sustainability levy.

- ✓ Achieved
- In Progress
- ⓘ Not achieved

Energy

- ✓ 1. Reduce energy emissions per exhibitor back to Base Year levels through an exhibitor sustainability levy.
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GHG Emissions

- ✓ Lower emissions per visitor by 5% compared with 2021 levels.

Suppliers & Materials

- ✓ Promote ticket downloads to further reduce printed tickets.

BOUNDARY

A boundary that includes event areas which will contribute to GHG emissions is also decided on.

Setting the boundary for an event can be difficult as events are often made up entirely of indirect GHG emission sources.

Indirect sources are those which event organisers do not directly own or control, but have indirectly contributed to.

For example, event organisers usually hire venues to stage their event, the operation of which may be left up to the venue owner as part of the lease agreement. This would be an indirect emission source.

This is in contrast to direct GHG emission sources,

which are those that event organisers own or control. For example company-owned cars driven by event organisers.

For example company-owned cars driven by event organisers.

Boundaries for Fieldays 2022 are depicted in Figure 1.

BENCHMARKING

Benchmarking is a valuable tool for Fieldays to compare sustainability strategies employed at the various events held there, and the differences in challenges and successful outcomes at each.

Each event is unique in size, audience and challenges and this needs to be taken into account when making comparisons, however, benchmarking in this way allows lessons learned to be shared and can set a standard of best practice for sustainable events at Mystery Creek.

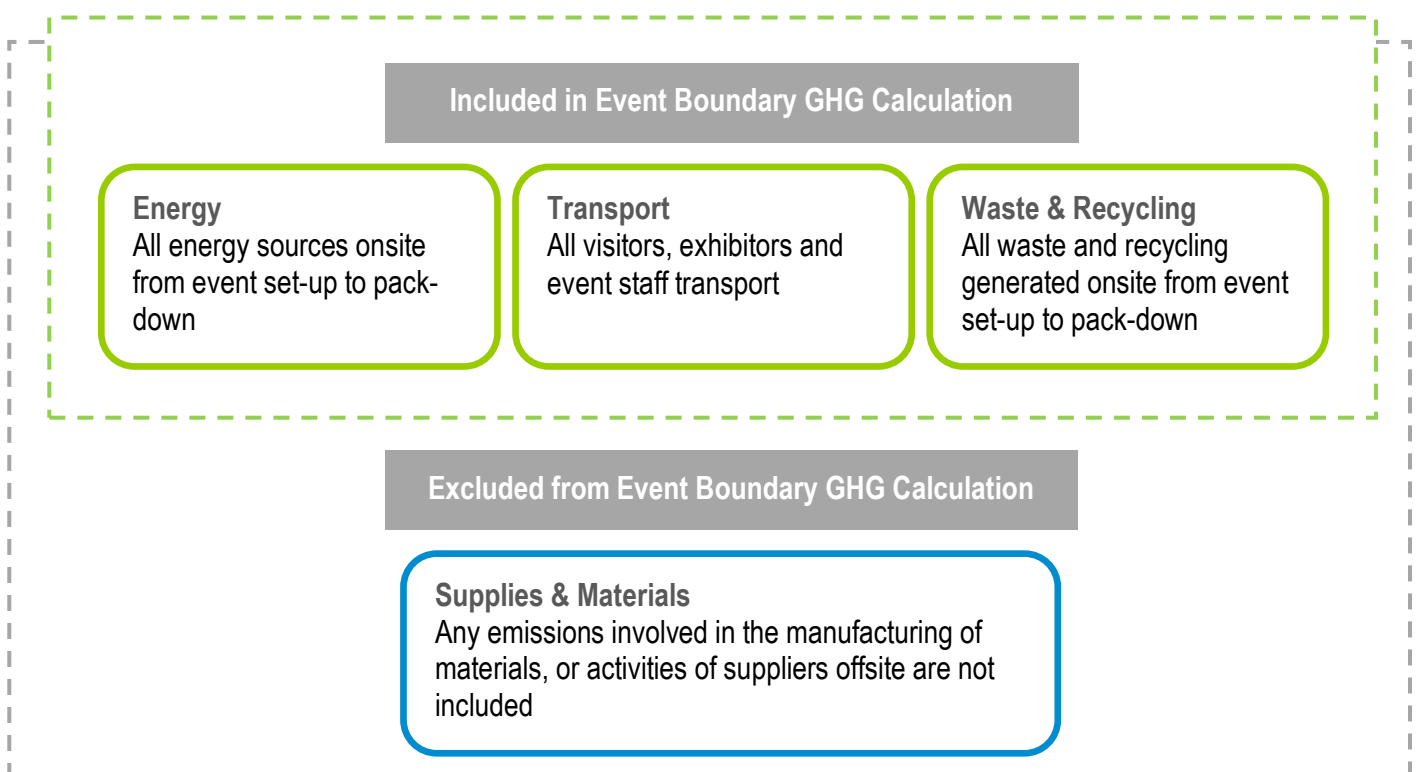


Figure 1: Event Boundaries Fieldays 2022

METHODOLOGY



Instep provided independent monitoring throughout Fieldays 2022 and put together the calculations included in this report.

Instep uses the International Standard 20121 for Event Sustainability Management Systems during event planning phases, and the internationally recognised ISO 14064-1 to calculate GHG emissions. Emission factors used in calculations are the most current available for the particular source.

The second stage involves collecting data (both quantitative and qualitative) throughout the event, so that conclusions can be drawn around whether objectives have been met.

In order to do this, Instep staff attend the event while it is staged, collecting data independently of organisers. This is important to verify the quality and independence of the data. This is then backed up with other secondary data including energy bills and contractor invoices.

For GHG emissions in particular, strict protocols around calculation are in place. Instep uses the internationally recognised ISO 14064-1 to calculate GHG emissions and ISO 14064-3 to verify.

Compliance against ISO 20121 is assessed post event to certify the event as a sustainable event.

BASE YEAR


A base year is a year for which there is good quality GHG and sustainability data available that can be used as a baseline to monitor future reduction success. Fieldays' base year is 2012; the first year an environmental monitoring programme was put in place. Comparisons are also made between the more recent previous events.

CALCULATION METHODOLOGY ACTIVITY
DATA X EMISSION FACTOR =
GREENHOUSE GAS EMISSIONS,
TONNE CARBON DIOXIDE EQUIVALENT,
T CO_{2E}

GHG

Emission Sources





"Greenhouse Gas Emissions from an event come from a wide range of sources including suppliers, attendees and hired equipment"

ENERGY

140,942 Kilowatts Electricity
 12,426 Litres Fuel
 6,590 Kilograms LPG
 65.63 tonne CO_{2e}



Energy consumed in equipment is central to any event. Energy emission sources at Fieldays Mystery Creek site include electricity consumed in event buildings over event dates, as well as Mystery Creek office electricity in the month leading up to the event.

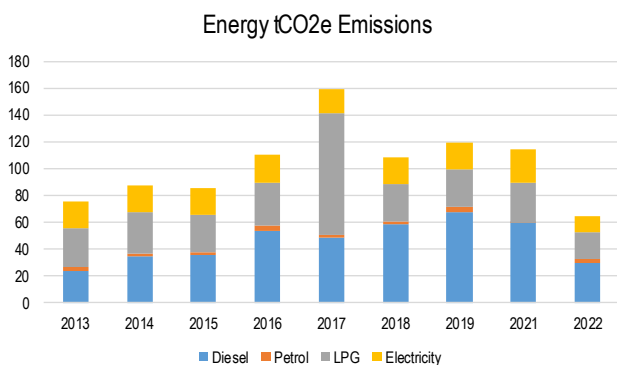
Diesel and petrol use is from event vehicles (utes, forklifts etc.) and generators around the site that are refueled at an on-site tank as well as being used to run portable lighting towers, particularly in car parks. LPG includes the use of LPG in tanks brought on-site by food stalls and exhibitors, as well as use by the Fieldays restaurant.

Data was collected during the event through surveys and meter readings, and followed up post-event with energy invoices. Details of all activity data for the energy areas, the associated calculated emissions, and the percentage change from last year's results are shown on the following page in Table 2.

Total 2022 Fieldays emissions from all energy sources are 65.63 tonne CO_{2e}, a significant 42.4% reduction against 2021, and 16.4% lower than base year levels. These results were assisted by a large reduction in Consumed Electricity factors when compared with 2021, (2021 was a drought year) whilst 2022 benefited from increased hydro availability.

Electricity consumption during the event period at MCEC sites reduced in Sub A and Sub B Event Buildings, but increased in Sub C, and again the MCEC office records a further increase of 9% on top of the 39% increase last year when compared with 2019.

The two year increase at MCEC should be looked at more closely with the aim of establishing the reason.



Fieldays 2022 Energy Results

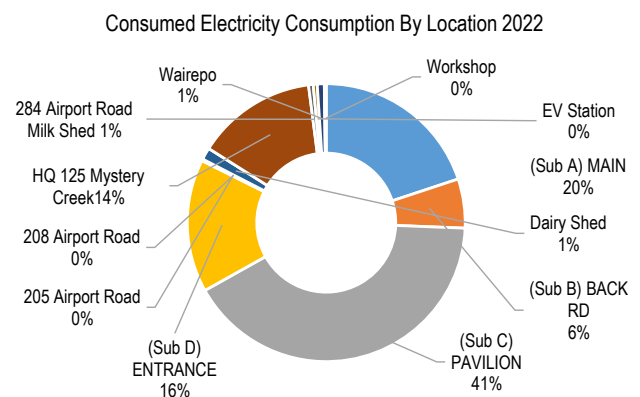
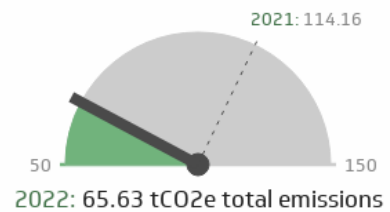


Table 2: Energy Emissions & Use Fielddays 2022

	Emission Source	Data Source	2022 Activity Data	% Change Activity Data vs. 2021	2021 GHG Emissions (tCO _{2e})	% Change GHG Emissions vs. 2021	2021 Activity Data	2021 GHG Emissions (tCO _{2e})
Electricity			kWh		t CO _{2e}			
	Sub A event buildings	Meter readings	28,068	-22%	2.19	-60%	35,870	5.52
	Sub B event buildings	Meter readings	8,057	-47%	0.63	-73%	15,322	2.36
	Sub C event buildings	Meter readings	58,147	+17%	4.53	-40%	49,513	7.62
	Sub D event buildings	Meter readings	21,811	-24%	1.70	-61%	28,595	4.4
	Mystery Creek Office	Meter readings	19,723	+9%	1.54	-45%	18,060	2.78
	Other Sites	Meter readings	4,489	+52%	0.40	-11%	2,950	0.45
	EV Station	Meter readings	645	>100%	0.05	>100%	44	0.01
	Total Electricity		140,942	-6.2%	12.54	-48%	191,152	24.19
<i>NB: The total electricity GHG emissions include an additional 1.55 tCO_{2e} to account for transmission losses.</i>								
Diesel			Ls		tCO _{2e}			
	Total Diesel	Invoices	11,138	-50%	29.96	-50%	22,294	59.39
Petrol							Ls	
	Total Petrol	Invoices	1,288	>100%	2.76	>100%	342	0.84
LPG							kg	
	Onsite tank	Gas invoice	500	-28%	1.51	-28%	696	2.10
	Food stalls	Onsite survey	4,956	+100%	15.0	+100%	2,478	7.51
	Exhibitors	Onsite survey	1,134	>100%	3.4	>100%	6,552	19.85
	Total LPG		6,590	-32.2%	19.91	-32.4%	9,726	29.47
TOTAL GHG Emissions					65.63	-42.4%		113.89

ENERGY OBJECTIVES:

- ✓ Achieved
- In Progress
- ! Not achieved

Energy

- ✓ 1. Reduce energy emissions per exhibitor back to Base Year levels through an exhibitor sustainability levy.
- 2. Investigate carbon mitigation or conservation programmes that may align with the exhibitor offset levy.
- 3. Plan logistics around introducing an exhibitor sustainability levy.
- ✓ 4. Communicate positive environmental messages around these programmes to exhibitors.
- ! 5. Trial a small solar powered site..
- ✓ 6. Use online and social media communications to share energy savings.

OBJECTIVE 1: ✓

- Reduce energy emissions per exhibitor back to base year levels through an exhibitor sustainability levy

OBJECTIVE 2: —

- Investigate carbon mitigation or conservation programmes that may align with the exhibitor offset levy

OBJECTIVE 3: —

- Plan logistics around introducing an exhibitor sustainability levy

Objectives 1 – 3 have been actively discussed in the time period between the 2019 and 2022 Fielddays' events. Because of the ongoing constraints around major events due to the carryover of the COVID-19 pandemic, additional levies were not actioned in 2022., however, 2021 and 2022 has provided good information as to how this could be achieved in future years. 2022 saw the base year level of 100 kg per exhibitor achieved without any levy with a current exhibitor energy emission of 65 kgs of carbon for every exhibitor.

2022: 65 kg energy carbon/ exhibitor



OBJECTIVE 4: ✓

- Communicate positive environmental messages around these programmes to exhibitors

Although energy neutralisation was not pursued in 2022, the Sustainable Exhibitor Award continued.

Competition was of a high level this year, with several experienced organisations joined by smaller exhibitors and food providers. Very positive feedback on this initiative continues and it is likely that entry numbers will continue to grow.

OBJECTIVE 5: !

- Trial a solar powered site

Whilst this specific objective has not been achieved, work continues to potentially neutralise all electricity emissions through various initiatives which include a 'switch off' programme, through to continuing evaluation of electricity provider Meridian and their renewable energy certification scheme.

OBJECTIVE 6: ✓

- Use online and social media communications to share energy savings

Sustainability has become a larger part of the conversation at Fielddays 2022; plans for even more initiatives, in particular around energy are underway for 2023.

Neutralising 2022 electricity emissions would save

140,942 electricity
kWh

12.5435 carbon
emissions
tonne CO2e

940 cost of
neutralising
\$

ENERGY BENCHMARKING:

Table 3: Energy Benchmarking

Energy Benchmarking					
	Fieldays 2022	Fieldays 2021	Fieldays 2019	Fieldays 2018	Fieldays 2017
Total Energy tCO2e	65.63	113.89	119.86	109.33	90.01
Total kWh	140,942	150,354	191,152	185,914	185,914
Total LPG kg	6,590	9,726	9,313	9,321	6,759
Total Fuel Ls	12,426	22,636	26748.5	22272	19093

ENERGY GOALS - BEYOND 2023:

Utilising achievements and outcomes of the 2022 Energy Objectives allows Fieldays to set future sustainability goals that will have maximum impact.

Goals are set on a short (next event), medium (2 years) and long term (5 years) time-scale with the aim to challenge the status quo with an ambitious long term goal, yet scale this achievably using shorter term objectives.

2023 ENERGY GOALS:

- Continue to evaluate renewable electricity certification in order to make Fieldays 2023 energy carbon free.
- Introduce a 'switch off' campaign trial with selected exhibitors to mitigate consumed electricity emissions.
- Invest in on-site alternative energy solutions by leveraging exhibitor sustainability levy.
- Continue to record and establish energy usage per exhibitor site and allow exhibitors to be part of a "zero energy" scheme if, and when, Fieldays select an energy neutral target date.

WASTE & RECYCLING

61,726 Kilograms Total Waste
 19,930 Kilograms Recycling/ Compost
 33% Landfill Diversion (at processing)
 60% Landfill Diversion (at gate)
 10.11 tonne CO_{2e}



Consumption in general, and the production of waste, has numerous negative environmental impacts. In particular, large volumes of waste sent to landfill consume resources and contribute to GHG emissions through waste breakdown and the emission of methane gas.

Waste diversion through the utilisation of recycling, re-purposing and compost bins is one of the easiest ways to encourage attendee participation and education in the event's sustainability journey.

On-site waste management system continues to improve. This year 61,726 kilograms of waste was generated. 2022 saw further refinement and effort put into landfill diversion by pre-event communications, increased sorters, and more detailed disposal streams. This resulted in an accurate 'at the gate' diversion rate of 60% based on cubic metres. Problems still exist with the disposal and processing providers with invoiced data suggesting a landfill diversion rate of 33%.

Table 4: Waste Emissions & Generation Fielddays 2022

	2022 Activity Data				2022 GHG Emissions (tCO _{2e})	% GHG Change vs. 2021 (tCO _{2e})	2021 Activity Data		2021 GHG Emissions (tCO _{2e})
	Total weight (kg)	% Change vs. 2021 kg at processing	Total volume m ³ at gate	Total volume m ³ at processing			Total weight (kilogram)	Total volume (cubic metre)	
Landfill	41,796	-30%	466	744	10.11	-46%	59,823	888	18.61
General Recycling	1,140	-91%	27	30			13,239	195	
Cans Plastic	-	Included in recycling	50				700	3.2	
Cardboard Recycling	8,829	-40%	487	327			14,804	360	
Glass Recycling	1,740	+29%	7.1	4.8			1,350	0.8	
Wood Recycling	2,900	-	82.5	0			560	9	
Organic Composting	5,321	-26%	8.5	0			7,210	11.5	
Other Re-purpose			39	0					
TOTAL Waste	61,726	-36%	1,167	1,166			96,987	1,468.5	
TOTAL Recycling/ Composting	19,930		701	361			37,164	580.5	
Diversion Rate			60%	33%	+22%		38%		

WASTE OBJECTIVES:

✓ Achieved
— In Progress
ⓘ Not achieved

Waste

1. Divert 50% of all waste from landfill.
2. Strongly encourage compostable packaging in order to collect >1,000 kg compostable material.
3. Introduce Sustainable Waste Partner scheme with key exhibitors.
4. Continue sorting of hot zones waste.
5. Continue to promote composting of food and coffee grinds across site.
6. Expand composting to sorting and composting of commercially compostable serveware and coffee cups.
7. Hold a waste workshop with exhibitors and vendors to gather ideas, opportunities and issues.
8. Raise awareness of options of compostable material for food vendors and anyone serving food

OBJECTIVE 1: —

- Divert 50% of all waste from landfill

The 50% diversion goal has been achieved based on the volume analysis 'at the gate'. Challenges remain in getting accurate and reliable data from the waste processing contractors. The experienced sorting and on-site waste team estimated that a total of 1166 m³ was generated 'at the gate'. Whilst this was matched to within 1m³ by the processor, the waste stream analysis varied significantly with the onsite team recording 466 m³ of landfill waste, whilst the processing contractor recorded 744 m³ of landfill.

OBJECTIVE 2: ✓

- Encourage compostable packaging to collect >1,000 kgs compostable material

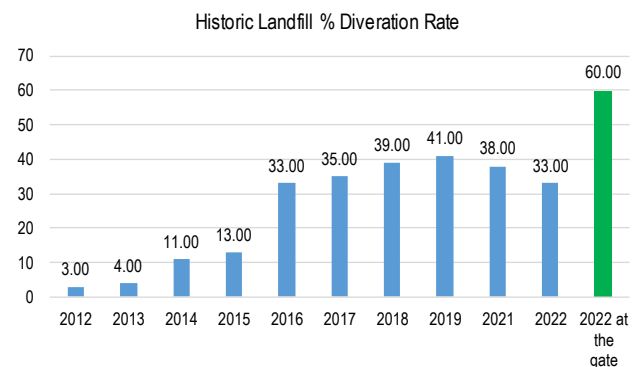
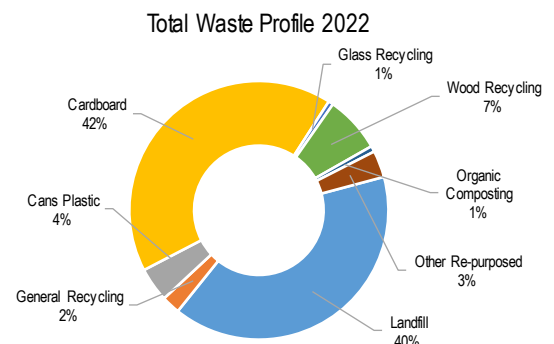
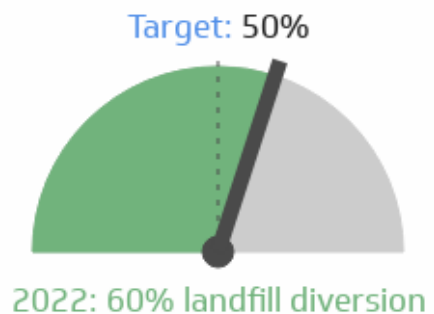
This objective was achieved and surpassed in 2022 with a total of 5,321 kgs of organic material collected. The ratio of 8.6% of total waste is an increase from the 7.4% recorded last year.

LANDFILL DIVERSION RATE 'AT THE GATE' FOR FIELDAYS 2022 RECORDED 60%. TCO_{2E} EMISSIONS WERE CALCULATED BASED ON 33% DIVERSION RATE

OBJECTIVE 3: ✓

- Introduce 'sustainable waste partner' scheme with key exhibitors

This objective, first introduced in 2019, has now become embedded within the Fieldays exhibitor experience. This year key exhibitors, including some of the largest sponsorship exhibitors, unprompted, contacted event staff before the event to be part of this initiative. Plans are in place to further expand this in 2023.



OBJECTIVE 4: ✓

- Sort compostable/repurposing material in hot zones

OBJECTIVE 5: ✓

- Continue to promote composting of food and coffee grinds across site

OBJECTIVE 6: ✓

- Expand composting and repurposing of commercially compostable serveware.

OBJECTIVE 7: !

- Hold a waste workshop with exhibitors/vendors
Plans are underway in 2023 to undertake this and run pre-event workshops and webinars with exhibitors.

OBJECTIVE 8: —

- Work with Hot Exhibitor Partners to trial 'Plastic Free Fielddays'.
- Raise awareness of options of compostable material for food vendors and anyone serving food.

Enthusiasm for alternatives to single-use plastic packaging and products has accelerated over recent years by the phase-out of some plastic products in New Zealand and globally.

The use of compostable products is likely to increase as manufacturers search for more suitable alternatives, especially following the government's regulated phase-out of single-use plastics and hard-to-recycle plastics, including compostable plastics; for example, drink stirrers, single-use produce bags, cutlery, plates and bowls, straws and produce labels.

Manufacturers are exploring alternatives such as biodegradable plastics, degradable plastics, compostable plastics and bio-based plastics. Some of these materials function similarly to conventional plastics; they also look almost identical, however, these different products have different disposal pathways which can cause confusion for the public and manufacturers. (Ministry for the environment position statement)

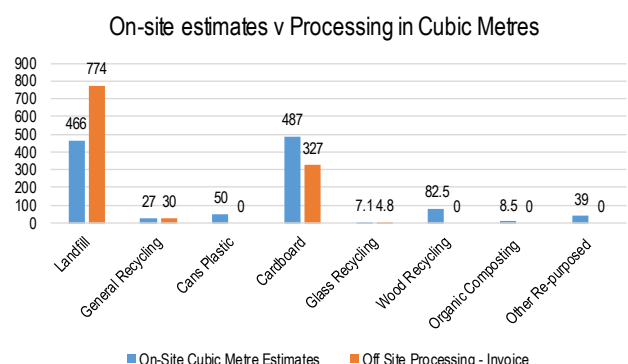
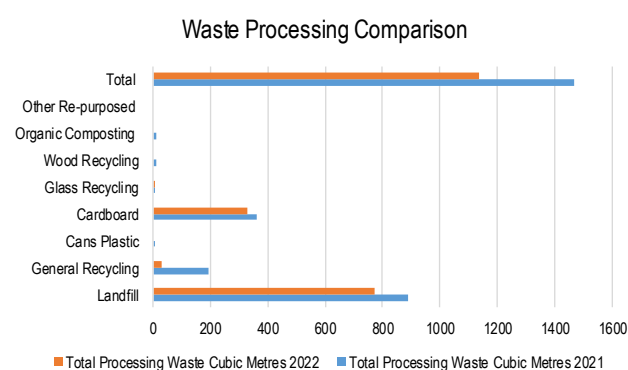
Despite the rapid development of certified commercial compostable material, disposal facilities have pushed back in accepting and processing such material, especially from the residential waste stream due to their lack of trust as regards the level of contamination which is deemed a risk to their end product.

Whilst events such as Fielddays deliver sorted and low contaminated risk it depends on the processing facility as to whether it is prepared to accept the material. This situation highlights the importance of recommending appropriate serveware and packaging to exhibitors and food providers whilst focusing on the 'circular economy' and the messaging to all stakeholders the benefits of 'reduce and reuse'.

Objectives 7 and 8 are important areas for the 2023 and beyond planning.

The disposal pathway and accuracy of data from the processing facilities continues to hinder the planned progress. The graphics below highlight the different sets of data achieved from the on-site sorting team and the processing contractor.

Analysis and corrective action continues to be evaluated with appropriate options considered and explored.



WASTE GOALS, BEYOND 2022:

Utilising the achievements and outcomes of 2022 Waste Objectives allows Fieldays to set future sustainability goals that will have maximum impact. Goals are set on a short (next event), medium (2 years) and long term (5 years) time-scale with the aim to challenge the status quo with an ambitious long term goal, yet scale this achievably using shorter term objectives.

2023 WASTE GOALS:

- Continue to advise on compostable or re-purpose serve-ware.
- Set up a waste sorting site that allows visitors and / or exhibitors to understand the effort that MCEC puts into servicing waste.
- Continue working with Sustainable Waste Partner exhibitors and expand this programme in 2023.
- Use Waste Partners as a trial to work towards “Single Use Plastic-Free Fieldays”.
- Hold a waste workshop with exhibitors and vendors to gather ideas, opportunities and issues pre-event. Utilise online portals for this.
- Liaise with food vendors through Mystery Creek spokesperson to set expectations pre-event.
- Investigate all disposal routes for all detailed waste streams which will allow a review and reset of short, mid and long term waste strategy following the government’s waste minimisation plans.

WASTE BENCHMARKING:

Waste Benchmarking						
	Fieldays 2022	Fieldays 2021	Fieldays 2019	Fieldays 2018	Fieldays 2017	Fieldays 2012 (Base Year)
GHG Emissions (tCO_{2e})	10.11	18.61	10.48	23.74	28.82	24.5
Total Waste (kg)	61,726	96,987	73,534	87,839	99,288	56,598
Total Recycling (kg)	19,930	37,164	29,859	33,879	34,312	1,248
Diversion Rate at gate	60% *	38%	41%	39%	35%	2%

* Volume Landfill Diversion Rates calculated using ‘at the gate’ volumes.

TRANSPORT

3,013,688 pkm Air Travel
 7,795,453 km Car Travel
 165,264 km Truck Travel
 8,616 km Bus Travel
2,518.01 tonne CO_{2e}



The Impact of Transport can be one of the largest in terms of event GHG emissions as the scope of this source extends to event visitors, exhibitors and organisers.

2022 saw increased international visitors and exhibitors compared with the travel restricted 2021 event. The retiming of the 2022 event saw a reduced number of visitors resulting in a reduced level of travel-associated CO_{2e} emissions.

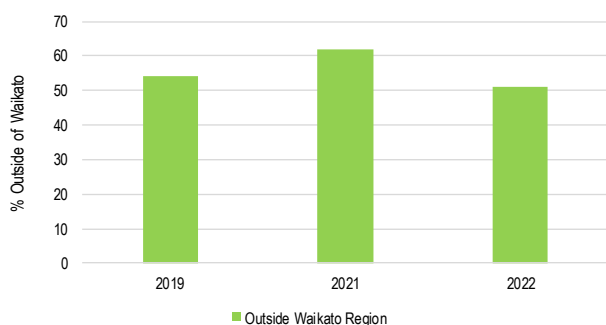
Surveys indicated that approximately 50% of visitors were from outside the Waikato region.

Transport emissions have the greatest impact on Fielddays' footprint with the 2022 transport footprint recording 2,518.01 tCO_{2e} which is 46.8% lower than the high 2021 transport emissions.

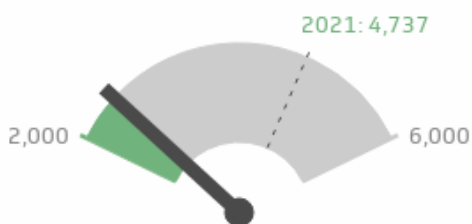
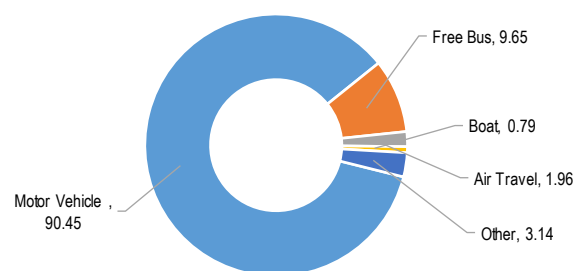
Surveying data was 'light' on whether visitors 'car pooled' but using the statement that '17.8% visited on their own', could be an indication that potentially car pooling increased to the 80% region. This is somewhat supported by 'in-house' surveying of exhibitors which record in the order of 90%. It should be noted, however, that exhibitors regularly record a high ratio in this important area.

Survey data indicates that 9.65% of visitors utilised the free bus service. This unfortunately cannot be verified by actual data from the bus service providers which indicate a reduced level at 7.2% over the duration of Fielddays. Nevertheless, this important initiative continues to potentially remove over 5000 vehicles off the road and internal surveying revealed very strong support for both the availability and the service.

Outside Waikato Region



Mode of Transport Used 2022 %



2022 Transport Emissions: 2,518.01 t CO_{2e}

Table 5: Transport GHG Emissions Fielddays 2022

	Emission Source	2022 Activity Data	% Change Activity Data vs. 2021	Data Source	2022 GHG Emissions (tCO _{2e})	% Change tCO _{2e} vs. 2021	2021 Activity Data	2021 GHG Emissions (tCO _{2e})
Visitors	Air Travel (pkm)	2,458,320	+0.8%	survey	319.58	+1.1%	2,438,425	316.19
	Bus Service (km)	8616	-19%	operator information	9.39	-19%	10,647	11.59
	Medium Car (km)	3,419,135	-78%	survey	789.82	-78%	15,578,621	4,122.99
	Large Vehicle (km)	3,156,124	-	survey	968.98	-	-	-
	Ferry (pkm)	111,600	>100%	previous data	20.09	>100%	710	2.09
	Helicopter (Ls)	900	-31%	previous data	1.98	-31%	1,236	2.86
	Total visitors travel				2,109.84	-52.6%		4,455.72
Mystery Creek Staff	Air Travel (pkm)	15,558	>100%	travel records	1.52	>100%	844	0.11
	Staff Vehicles (Ls)	8252.69	>100%	odometer readings	21.66	>100%	1,365	1.25
	Total staff travel		>100%		23.2	>100%	2,209	1.35
International Guests	Air Travel (pkm)	280,670	>100%	contact list	4.95	>100%	14,208	1.14
	Total international travel	280,670	>100%		4.95	+100%	14,208	1.14
Exhibitors	Air Travel (pkm)	259,140	-32%	survey	33.69	-32%	382,735	49.63
	Medium Car (km)	633,515	-21%	survey	146.34	-31%	800,955	211.98
	Large Car (km)	578,427	-	survey* changed definition	177.58	-		
	Truck (km)	165,264	+0.07%	survey	22.47	+29%	165,145	17.34
	Total Exhibitors Travel				380.08	+36%		278.95
TOTAL					2,518.01	-46.8%		4,737.16

TRANSPORT OBJECTIVES:

- ✓ Achieved
- In Progress
- ⓘ Not achieved

Transport

- 1. Enhance car parking options at the Park n Rides to lift bus patronage to 15%.
- ✓ 2. Continue to promote and incentivise bus travel.
- ✓ 3. Communicate the benefits for everyone in terms of reduced traffic congestion when shared transport is used.

OBJECTIVE 1: —

- Lift bus patronage to 15%

OBJECTIVE 2: ✓

- Continue to promote & incentivise bus travel

Bus patronage in 2022 recorded 7.2% of all visitors, this is a reduction when compared with the 11% last year. Internal surveys indicate a positive appreciation of this service with views ranging from a 'cost benefit' through to the ease of use stress free travel.

OBJECTIVE 3: ✓

- Communicate the benefits for all in terms of reduced traffic congestion when shared transport is used

2023 offers even more opportunity to promote and incentivise shared transport due to the efficiencies already highlighted with the bus service and giving people an option to avoid carpark congestion. Incentives to consider include, priority parking spots or entry, free coffee or giveaways, small reduction in ticket price, and could be offered to carpoolers as well as bus users.

TRANSPORT GOALS, BEYOND 2022:

Utilising achievements and outcomes of the 2022 transport objectives allows Fieldays to set future sustainability goals that will have maximum impact. Goals are set on a short (next event), medium (2 years) and long term (5 years) time-scale with the aim to challenge the status quo with an ambitious long term goal, yet scale this achievably using shorter term objectives.

Mid Term 2023	Long Term 2025
Enhance car parking options at the park n'ride to lift bus patronage to 15%	Continually promote these initiatives to lift bus patronage to 20%

2023 TRANSPORT ACTIONS:

- Enhance incentives for shared bus travel.
- Think whether this could also be applied to other shared transport modes, e.g. carpooling, park and ride.
- Communicate the benefits for everyone in terms of reduced traffic congestion when shared transport is used.

Transport Benchmarking						
	Fieldays 2022	Fieldays 2021	Fieldays 2019	Fieldays 2018	Fieldays 2017	Fieldays 2016
GHG Emissions (tCO _{2e})	2,518.01	4,737.16	4,737.16	4,461.78	5,528.13	7,371.20
Largest Transport Impact	Attendees 84%	Attendees 94%	Attendees 82%	Attendees 82%	attendees 79%	attendees 87%
Air Travel Emissions	14%	8%	26%	27%	32%	54%
kgCO _{2e} / Attendee	33	36	37	34	40	60

TOTAL GREENHOUSE GAS EMISSIONS

2,593.76 Tonne CO_{2e}



Table 7: Total Greenhouse Gas Emissions Fieldays 2022

Emission Source	2022 GHG Emissions (tCO _{2e})	2021 GHG Emissions (tCO _{2e})	% Change GHG Emissions vs. 2021
Energy	65.63	113.89	-42
Waste	10.11	18.61	-46
Transport	2,518.01	4,737.16	-47
Total GHG Emissions	2,593.76	4,869.66	-47
kg CO _{2e} / attendee	34	37	-8

Fieldays' carbon footprint is made up of all of the GHG emission sources that have been detailed in the previous sections of this report, namely energy, waste and transport.

Whilst actions to reduce emissions need to be made within each of these three areas, the event's total carbon footprint, and the footprint intensity per visitor, act as an overall indicator of progress made towards sustainability goals.

GHG EMISSIONS OBJECTIVES:

OBJECTIVE 1: ✓

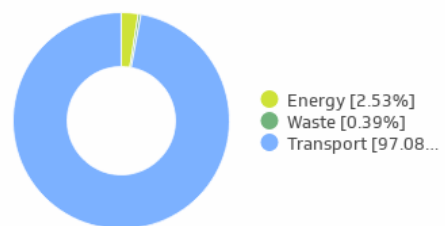
- Lower emissions per visitor by 5% compared with 2021 levels

Emissions per visitor reduced in 2022 to 34 kilograms per visitor compared with 37 kgs/ visitor in 2021. As detailed in the graphic above reductions in all scopes contributed to this reduction.

The 2022 emissions profile is unchanged from past years in that the dominant emission source is transport, at more than 97% of all emissions. Because transport emissions also saw a 47% reduction compared with 2021, this contributed to an overall 47% reduction in Fieldays' total emission profile to record 2,593.76 tCO_{2e}.

Total GHG Emissions - Graphs

Emission Profile




Historical Emissions



SUSTAINABILITY

MEASURES





"These do not contribute to your GHG emissions but including these sources helps you manage and reduce your consumption of resources."

SUPPLIERS & MATERIALS

7,875,225 A4 Sheets



Information sharing pre, and during Fielddays, is central to the smooth running and enjoyment of the event by all attending.

Over time, the methods of sharing information have changed for Fielddays, with a downloaded App making inroads into reducing the number of printed programmes.

2022 records a 22% reduction when compared with last year.

Other supplied materials; in particular cleaning and waste management materials, were monitored in 2021, unfortunately at the time of writing this data was not available for the current period and will be added when received.

Table 8: Materials Fielddays 2022

Source	Data Source	2022 Activity Data (A4 sheets equivalent)	% Change vs. 2021 # items	2021 Activity Data (A4 sheets equivalent)
Volunteer Handbook	office data	0	-100%	200
Tickets	office data	2,896	-56%	5,498
Vehicle Passes	office data	156	16%	3,150
Focus Newspaper	office data	7,392,000		9,251,200
Exhibitor Handbook	office data	0	-100%	0
Fielddays Programmes	office data	480,000	-20%	768,000
Ricoh Copier/Printer	office data	173	359%	15,087
Total # A4 sheets		7,875,225	-22%	10,043,135
Ocean Care (clear foam soap)		No Data		12
Paper Towels - SC100C		No Data		83
Toilet Tissue - Large Rolls DJ2		No Data		102
Black 2040L bin liners		No Data		21
Clear 240L bin liners		No Data		27

Paper and Publications is now included as a Sustainability Measure, meaning quantities are monitored without associated GHG emissions.

SUPPLIERS & MATERIALS OBJECTIVES:

✓ Promote ticket downloads to further reduce printed tickets.

OBJECTIVE 1: ✓

Promote ticket downloads to reduce printed tickets

This objective is being very successfully implemented, with a continuing reduction of printed tickets.

WATER CONSUMPTION

874,324 cubic metres



Water Conservation and management within an event is an integral part of sustainability. Whether an event is an indoor or outdoor venue, it will use clean water and produce waste water. An event may consume and dispose of metered water or impact on natural waterways.

Water reduction objectives were not priorities during 2022. Data quality continues to be an issue and fluxes from year to year, however, improved understanding of units ensures that a standard approach is in place. The 2023 focus should be on getting data sources concrete and of a high quality before implementing any reduction initiatives around the Fieldays' site.

Total water consumption reduced by 26% when compared with the adjusted previous year. The fact that the 2022 Fieldays event straddled November and December mean that an estimated average had to be made based on days.

Table 10: Water Consumption Fieldays 2022

Water Meter	2022 Activity Data (m³)	Data Source	% Change m3 vs. 2021	2021 Activity Data (m³)
River process (28)	869,350	Last year estimate	-26%	1,175,100
River toilet (26)	No Data	Last year estimate	-100%	394
Golf club (41)	No Data	Last year estimate	-100%	75
E street (16-38)	No Data	Last year estimate	-100%	1,034
Meter ID: 110199105 - (Wool Shed Supply)	1,476	Onsite meter readings	-23%	1,920
Meter ID: 8SENO110240431 (Between 190-180 Mystery Creek Road)	3,358	Onsite meter readings	+46%	2,292
Meter ID:06M127635 LHS of farm driveway	76		-	
MC Rd Gates 2 & 3	64		-	
TOTAL	874,324		-26%	1,180,815

ENVIRONMENTAL ATTITUDES



One of the indirect positive benefits from undertaking an Instep Sustainable Event Programme is the wider impact the event can have on the education and awareness of participants and stakeholders on sustainability issues.

Strategies and ideas around the environment and sustainability can be shared through communication with stakeholders e.g. pre-event newsletters, on-site signage and through engagement in the sustainable event process such as active encouragement to recycle and feedback in surveying.

The attitudes of exhibitors in particular have seen clear positive change over the past 2 to 3 years, with 2022 witnessing a further jump in exhibitors' engagement and the desire to ensure that they are in line with everyone's objectives, especially in the energy and waste areas.

Objectives are being set specifically in this area in 2023 and beyond in order to track and increase the positive influence Fieldays can have on the wider Waikato and New Zealand agricultural community.

Ideas for 2023 include:

- Continue to build on the Sustainable Exhibitor Award entries and marketing.
- Enhancing pre-event communication through a sustainability portal.
- Increasing benefits received by exhibitors who get on-board with Fieldays' sustainability initiatives e.g. no single use plastic, switch off campaign etc.

2023

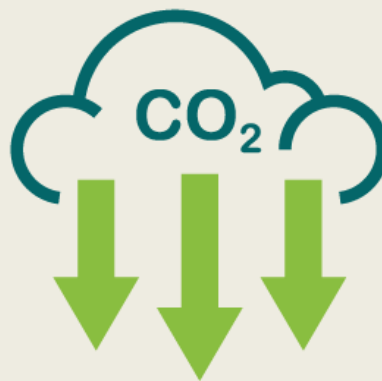
LOOKING AHEAD



"A reduction goal for the future is an essential component to reducing your emissions. It allows progress to be tracked over time."



REDUCTION GOALS



FUTURE GOALS

Mystery Creek Events Centre Management is committed to aligning sustainability practices with the environmental concerns of the New Zealand agricultural community and leading by example when it comes to showcasing sustainable management.

Working towards the mid and long term goals first set in 2019 allows the event management team to continually improve upon their stewardship of this sustainable event and ensures Fieldays 2022 complies with ISO 20121 Sustainable Event certification.

ENERGY

- Invest in onsite alternative energy solutions by leveraging an exhibitor sustainability levy.
- Use data to indicate energy usage per exhibitor site and allow exhibitors to be part of a 'zero energy' scheme if Fieldays goes energy neutral.
- Explore an event 'Community Switch-off Campaign'
- Energy reduction or increase in alternative energy, target a 5% reduction in office electricity.
- Investigate carbon mitigation or conservation programmes that may align with exhibitor offset levy

TRANSPORT

- Enhance incentives for shared bus travel.
- Enhance car parking options at the Park n'Rides to lift bus patronage to 15%
- Think of other shared transport modes this can also be applied to, e.g. carpooling, park n'rides.
- Communicate the benefits for everyone in terms of reduced traffic congestion when shared transport is used.

WASTE

- Detail a 'no go' area for serveware and packaging. Highlight the reason for them being problematic.
- Develop a 'Single-use plastic elimination programme' (SUEP)
- Divert 60% of all waste from landfill through processing facility data.
- Formalise disposal destinations and pathways for all waste materials.
- Set up a waste sorting site that allows visitors and/or exhibitors to understand the effort that Fieldays puts into servicing waste.
- Use Waste Partners as a trial to work towards 'Single-use plastic free Fieldays'.
- Continue working with Sustainable Waste Partner Exhibitors and expand this programme in 2023.
- Hold a waste workshop with exhibitors and vendors to gather ideas, opportunities and issues pre-event. Utilise online portals for this.
- Liaise with food vendors through Mystery Creek spokesperson to set expectations pre-event.
- Align all messaging with appropriate disposal pathway.
- Work with exhibitors and foodies, not against them.

WIDER SUSTAINABILITY

- Building on the Sustainable Exhibitor Award entries and marketing.
- Enhancing pre-event communication through a sustainability portal.
- Increasing benefits received by exhibitors who get on board with Fieldays' sustainability initiatives e.g. no single use plastic.

A LITTLE BIT ABOUT US



By Joining the Instep Programme you are making a conscious decision to do something positive about a global problem.

At Instep, we believe that without first understanding your own impacts, one cannot take the right action. We strongly believe that your individual awareness and action has a more positive impact on our environment than the purchasing of carbon 'offsets'.

Any effects of climate change cannot be reversed overnight, however, you may be surprised how small changes through the Instep programme can make a big difference to your own situation.

At Instep we like to look at the positive things you can do, and they might be easier than you think. Our experience has shown that if 'you measure it – you manage it'.

WHO ARE WE?

Peter Birkett, Director and Founder of Instep.

With over forty years' experience in the international specialist chemical industries, Director and Founder Peter Birkett knows that environmental monitoring and reporting must be carried out accurately, professionally and with little disturbance to business-as-usual. After viewing first-hand the environmental and sustainability issues industry and business face around the world Peter established Instep, aiming to assist with minimising the impact of these processes on the environment and assist businesses of all types to meet the environmental challenges in today's business world.

Alisha Black, Technical Director Instep

Scientific credibility and compliance with all International Standards are key to the success of the Instep programmes and consulting services. Under the control of Alisha Black and her scientific team we know that this requirement is achieved.

Alisha completed her MSc in Biology at the University of Auckland in 2003, studying molecular genetics and environmental science. Since then her working experience has involved roles both in the laboratory and the field undertaking air, water and odour testing. Over the last 16 years Alisha and her team have created and developed the very successful range of Instep Carbon and Sustainability Programmes.

Margaret Birkett, Director and Finance Manager

Margaret's background is in education with many years of teaching in the United Kingdom, Hong Kong and New Zealand.

She subsequently moved into educational administration with responsibility for budgets, payroll and enrolments. Most recently she has held the roles of Careers, Gateway and STAR administrator, and International Student Manager - all within the educational system.

AS THE PROVERB GOES
"EVERY JOURNEY OF A THOUSAND MILES
STARTS WITH A SINGLE STEP".
THE INSTEP PROGRAMMES WILL ASSIST
YOU IN YOUR OWN
SUSTAINABILITY JOURNEY

